

Amendment to the claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1-25. (Cancelled)

26. (currently amended) An isolated protein comprising ~~the~~ a 55 kDa extracellular, apoptogenic protein of *Photobacterium damsela* subsp. *Piscicida*.

27. (currently amended) ~~An~~ The isolated protein of claim 26 ~~wherein said protein has~~ having the amino acid sequence of SEQ ID NO: 2, or an immunogenic derivative thereof.

28. (currently amended) ~~An~~ The isolated protein of claim 26 ~~wherein said protein has~~ having the amino acid sequence from amino acid number 17 through amino acid number 513 of SEQ ID NO: 2, or an immunogenic derivative thereof.

29. (currently amended) An immunogenic composition comprising the isolated protein of claim 26 and a pharmaceutically acceptable carrier.

30. (currently amended) An isolated protein comprising an immunogenic derivative of ~~the~~ a 55 kDa extracellular, apoptogenic protein of *Photobacterium damsela* subsp. *piscicida*.

31. (currently amended) An immunogenic composition comprising the isolated protein of claim 30 and a pharmaceutically acceptable carrier.

32. (withdrawn-currently amended) An isolated polynucleotide comprising a DNA encoding the isolated protein of claim 26.

33. (withdrawn) A plasmid comprising the polynucleotide of claim 32.

34. (withdrawn) The plasmid of claim 33 wherein said plasmid is an expression vector.
35. (withdrawn) A host cell comprising the plasmid of claim 33.
36. (withdrawn) An immunogenic composition comprising the expression vector of claim 34 and a pharmaceutically acceptable carrier.
37. (withdrawn) An isolated polynucleotide comprising the DNA sequence of SEQ ID NO: 1.
38. (withdrawn) A plasmid comprising the polynucleotide of claim 37.
39. (withdrawn) The plasmid of claim 38 wherein said plasmid is an expression vector.
40. (withdrawn) A host cell comprising the plasmid of claim 38.
41. (withdrawn) An immunogenic composition comprising the expression vector of claim 39 and a pharmaceutically acceptable carrier.
42. (withdrawn) An isolated polynucleotide comprising a DNA sequence that is at least 70% homologous to the DNA sequence of SEQ ID NO:1 whereby said polynucleotide encodes a polypeptide that binds to an antibody that binds to a protein having the amino acid sequence of SEQ ID NO: 2 from amino acid number 17 through amino acid number 513.
43. (withdrawn) A plasmid comprising the polynucleotide of claim 42.
44. (withdrawn) The plasmid of claim 43 wherein said plasmid is an expression vector.
45. (withdrawn) A host cell comprising the plasmid of claim 43.

46. (withdrawn) An immunogenic composition comprising the expression vector of claim 44 and a pharmaceutically acceptable carrier.

47. (withdrawn) A method for preventing or treating pasteurellosis in a fish in need of treatment thereof comprising administering to said fish the immunogenic composition of claim 29.

48. (withdrawn) A method for preventing or treating pasteurellosis in a fish in need of treatment thereof comprising administering to said fish the immunogenic composition of claim 31.

49. (withdrawn) A method for preventing or treating pasteurellosis in a fish in need of treatment thereof comprising administering to said fish the immunogenic composition of claim 36.

50. (withdrawn) A method for preventing or treating pasteurellosis in a fish in need of treatment thereof comprising administering to said fish the immunogenic composition of claim 41.

51. (withdrawn) A method for preventing or treating pasteurellosis in a fish in need of treatment thereof comprising administering to said fish the immunogenic composition of claim 46.

52. (withdrawn-currently amended) A monoclonal antibody that binds to the isolated protein of claim 26.

53. (withdrawn) A method of preparing a vaccine against pasteurellosis, comprising the steps: (a) growing *Photobacterium damsela* subsp. *piscicida* cells in culture; (b) separating supernatant from the cells; (c) optionally, concentrating the supernatant; and (d) inactivating the supernatant with an inactivating agent.

54. (withdrawn) A method according to claim 53 wherein in step (a) the cells are grown until mid-exponential phase, at which point step (b) is carried out.

55. (withdrawn) A method according to claim 53 wherein said inactivating agent is formaldehyde.

56. (withdrawn) A vaccine composition comprising a preparation rich in p55 from *Ph. damsela subsp. piscicida* wherein said preparation is selected from the group consisting of an inactivated cell culture supernatant of said *Ph. damsela subsp. piscicida* and extracellular proteins of *Ph. damsela subsp. piscicida*.

57. (withdrawn) The vaccine composition of claim 56 wherein said preparation rich in p55 is the sole immunogenic component of the vaccine composition.

58. (withdrawn) The vaccine composition of claim 56 wherein said *Ph. damsela subsp. piscicida* cells have been cultured without iron supplementation and in the absence of iron chelating agents.

59. (withdrawn) The vaccine composition of claim 58 wherein said *Ph. damsela subsp. piscicida* cells have been cultured in medium containing less than 15 μ M iron.

60. (withdrawn) The vaccine composition of claim 56, wherein said cell culture supernatant is prepared from cell cultures grown to mid-exponential phase.

61. (withdrawn) A diagnostic kit for the diagnosis of *Photobacterium damsela subsp. piscicida* infection in fish comprising a reagent specific for *Photobacterium damsela subsp. piscicida* wherein said reagent is selected from the group consisting of an isolated polynucleotide of SEQ ID NO: 1, an isolated polypeptide of SEQ ID NO: 2, an isolated polypeptide of amino acids 17 through 513 of SEQ ID NO: 2; and a monoclonal antibody that binds to a protein comprising the amino acid sequence of SEQ ID NO: 2.

62. (New) An isolated polypeptide that is a homologous or a substantially homologous recombinant derivative of a *Photobacterium damsela* subsp. *Piscicida* 55 kDa extracellular protein or fragment thereof.

63. (New) The isolated polypeptide of claim 62, wherein the *Photobacterium damsela* subsp. *Piscicida* 55 kDa extracellular protein comprises the amino acid sequence of SEQ ID NO: 2.

64. (New) The isolated polypeptide of claim 62, wherein the *Photobacterium damsela* subsp. *Piscicida* 55 kDa extracellular protein comprises the amino acid sequence from amino acid number 17 through amino acid number 513 of SEQ ID NO: 2.

65. (New) The isolated polypeptide of claim 62, wherein the isolated polypeptide comprises the amino acid sequence of SEQ ID NO: 2.

66. (New) The isolated polypeptide of claim 62, wherein the isolated polypeptide comprises the amino acid sequence from amino acid number 17 through amino acid number 513 of SEQ ID NO: 2.

67. (New) An immunogenic composition comprising the polypeptide of claim 62.

68. (New) An isolated recombinant polypeptide that is an immunogenic derivative of a *Photobacterium damsela* subsp. *piscicida* 55 kDa extracellular protein.

69. (New) An immunogenic composition comprising the polypeptide of claim 68.

70. (New) The isolated protein of claim 27 having the amino acid sequence of SEQ ID NO: 2.

71. (New) The isolated protein of claim 28 having the amino acid sequence from amino acid number 17 through amino acid number 513 of SEQ ID NO: 2.